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Preparing our Greatest Team: The Design and Delivery of a Preparation Camp
for the London 2012 Olympic Games

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Abstract

This study investigated the factors perceived to be associated with the design and delivery of an effective Olympic Games preparation camp. To identify and explore such factors, interviews were conducted with eight members of a preparation camp delivery team for the London 2012 Olympic Games, and with two athletes who had participated in Olympic preparation camps. The results identified four overarching factors that should be considered when designing and delivering an effective Olympic preparation camp: planning, operations, environment, and the delivery team. To illustrate the interrelationships between these factors and situate them within the holistic preparation camp context, an operational model was developed. This model also portrays the chronological ordering of events, individuals involved at each stage, and athlete-centered nature of an Olympic preparation camp. Evidence-based recommendations are also provided for those tasked with the design and delivery of an Olympic preparation camp, so that they can optimally prepare athletes and teams for an Olympic Games.

Keywords: environment, management, operations, planning, psychology, sport

Preparing our Greatest Team: The Design and Delivery of a Preparation Camp
for the London 2012 Olympic Games

The magnitude of an Olympic Games typically places this quadrennial sporting festival as the highlight of athletes' careers. The Olympics are also valued by nations' leaders who, amongst other reasons, embrace the Games as a political and economic vehicle to exhibit their country and enhance their reputation (Arnold, Fletcher, and Molyneux, 2012; Tien, Lo, and Lin, 2011; Xu, 2006). These potential gains often result in significant importance being placed on a nation's Olympic achievements (Green and Houlihan, 2005). To maximize success, National Olympic Committees (NOCs), together with National Governing Bodies (NGBs), are tasked with selecting the best athletes to participate at each Olympics. Following selection, some NOCs host an Olympic preparation camp, which often lasts approximately a couple of weeks and brings together the majority of athletes competing for the nation at the upcoming Games. These preparation camps are typically attended by disparate sports teams and individual male and female athletes, rather than being sport- or gender-specific. Intricate detail goes into planning these camps to ensure that the athletes are in an optimal state to compete, and achieve success, at an Olympics. To achieve this ultimate purpose, NOCs aim to design and deliver a preparation camp so that it provides athletes with the opportunity to conduct final physical and mental preparations away from distractions, acclimatize to the time zone and climate (if required), become part of a greater national team, and adjust to a multi-sport elite environment.

In view of the various goals of Olympic preparation camps and the salience that is afforded to them as a means of maximizing the potential for Olympic success, it is surprising that there is a lack of research on these final preparations. Some researchers have developed theoretical and conceptual frameworks for other camps, events, and programs (Costa, Tsitskari, Tzetzis, and Goudas, 2004; Hede, 2008; Jago and Shaw, 1998; Thomas, Hermes,

and Loos, 2008; Wanous and Reichers, 2000), which may be used to inform the delivery of an Olympic preparation camp. For example, in general event management literature, Hede (2008) has discussed the Triple Bottom Line (TBL) framework which, drawing on Stakeholder Theory (Freeman, 1984), amalgamates the social, economic, and environment parts of an event. Applied to an Olympic preparation camp, the TBL framework might consider the sports teams and organizations attending the event (social), the sponsors of the camp (economic) and the accommodation and training facilities required (environment). Notwithstanding the important contribution of this research, it is important to note that Olympic camps are different to other camps and events in view of, amongst other factors, their quadrennial occurrence and multi-sport composition. It is necessary, therefore, in view of the lack of explicit Olympic preparation camp research, to draw from other Olympic-related lines of inquiry at an organizational (e.g., governance and policy), environmental (e.g., leadership and culture), and individual (e.g., psychological and lifestyle) level to inform the present study.

Research at the organizational level in an Olympic context has examined the sports policy factors (e.g., financial support, talent identification, coaching provision) deemed necessary for sporting success at an Olympic Games (De Bosscher, Bingham, Shibli, van Bottenburg, and De Knop, 2008; De Bosscher, De Knop, van Bottenburg, and Shibli, 2006; De Bosscher, Shilbury, Theeboom, Van Hoecke, and De Knop, 2011). Rather than focusing on the policy factors that are idiosyncratic to an Olympic preparation camp, this research has typically examined the systematic and strategic approaches that are employed by a number of different countries to develop elite athletes over a longer time period (De Bosscher *et al.*, 2008; Green and Houlihan, 2005; Houlihan and Green, 2008; Oakley and Green, 2001; Sotiriadou and Shilbury, 2009). In addition to examining policy factors, research at the organizational level has also identified the governance principles that might influence an

organization's effective functioning and success (Little, 2012; Rollins, 1993; Spitzer and Evans, 1997; Wagstaff, Fletcher, and Hanton, 2012b). Examples of these principles include: having the ability to flexibly employ various leadership styles, developing techniques to foster cohesion, and ensuring that there are clear lines of communication (Wagstaff, Fletcher, and Hanton, 2012a; Wagstaff, Hanton, and Fletcher, 2013; Weinberg and McDermott, 2002). With reference to the present study, it would be useful for research to elicit which of these and/or other principles are important for organizational effectiveness and success at an Olympic preparation camp. The success of an Olympic preparation camp is likely to be measured by those involved in relation to its purpose and ultimate aim; therefore, how effective the camp is in optimally preparing athletes and teams so that they achieve success at the upcoming Games. It is important to note, however, that not all nations will be able to afford an extensive Olympic preparation camp; thus, the level of preparation and definitions of effectiveness/success is likely to vary accordingly.

Turning from a policy and governance focus to the environment, an Olympic preparation camp can be classified as a high performance environment considering the caliber of athletes that attend, and the purpose of the camp to provide optimal preparation prior to the Olympic Games. Due to the absence of research holistically examining Olympic preparation camps, however, it is useful to examine the studies conducted in other high performance environments. In two studies investigating the England youth soccer teams, Pain and Harwood (2007, 2008) found that the performance environment is multifaceted, with performance contingent on a range of interacting factors (e.g., organizational, physical, environmental, tactical, developmental, psychological, social). To operationalize the interactional nature of factors in a high performance environment, Jones, Gittins, and Hardy (2009) developed the High Performance Environment model. Although not designed specifically for an Olympic preparation camp, the model illustrates four core components

(leadership, performance enablers, people, organizational climate) that are proposed to interact and be essential for sustainable high performances. In addition to influencing performance, factors within a performance environment can also have an impact on an individual's well-being (DiBartolo and Shaffer, 2002; Douglas and Carless, 2006); therefore, it is crucial that such factors are managed. In line with this, further research at the environmental level in an Olympic context has examined how an Olympic program and environment can be best led and managed by national performance directors (Fletcher and Arnold, 2011; Arnold *et al.*, 2012). For example, Fletcher and Arnold (2011) highlighted that to create and sustain an effective high performance environment for an Olympic team, national performance directors need to identify and disseminate a vision, optimize resources and processes, challenge and support the people involved, and transform individuals' attitudes and group cohesion. The applicability of these factors in the specific Olympic preparation camp context, and the effects they can have on performance, have yet to be examined.

In comparison to the preceding focus on the organizational and environmental levels in an Olympic context, research at the individual level has typically focused on ascertaining the factors that are associated with athletic excellence at an Olympic Games (see, e.g., Gould, Eklund, and Jackson, 1992a, 1992b; Mahoney and Avenier, 1977; Orlick and Partington, 1988). An early conclusion from this body of research was the essential role that psychological skills played in achieving successful performances. More recently, however, it has been emphasized that such an individualistic approach does not capture the entire picture of what it takes to achieve performance excellence (Fletcher and Wagstaff, 2009; Gould and Maynard, 2009). Instead, it is likely that a diverse range of factors interact to create significant implications for elite performance (Hardy, Jones, and Gould, 1996). In recognition of this, research has begun to adopt a more holistic approach to investigate the influence that

a wide variety of factors (e.g., social, environmental, physical, psychological) have on Olympic performances, as perceived by athletes and coaches (see, e.g., Gould, Greenleaf, Chung, and Guinan, 2002; Gould, Guinan, Greenleaf, and Chung, 2002; Gould, Guinan, Greenleaf, Medbery, and Peterson, 1999). Collectively, this body of research has identified many factors (e.g., team cohesion, training, the media, travel) that can positively and/or negatively impact performance at the Olympics; however, the factors specifically present at an Olympic preparation camp are yet to be explored.

Despite the significant amount of Olympic-related research at organizational, environmental, and individual levels that can inform the present study, no research to date has holistically examined Olympic preparation camps per se. Indeed, it is evident that a need exists to better understand how organizations prepare athletes for Olympic competition (Fletcher and Wagstaff, 2009) and how, specifically, Olympic preparation camps can be designed and delivered so that they optimally prepare athletes prior to the Games. To address this gap in the literature and the need for pragmatic recommendations, the purpose of the present study is two-fold: firstly, to investigate factors perceived to be associated with the design and delivery of an effective Olympic preparation camp, and secondly to develop an operational model which illustrates the interrelationships between these factors and situates them within a holistic preparation camp context.

Method

Design

In view of the absence of research exploring Olympic preparation camps, qualitative methods were considered most appropriate for this study. To elaborate, research that adopts qualitative methods can help to build understanding of a previously understudied area by exploring multiple perceptions of reality and interpretations of experience (Rubin and Rubin, 2011). Semi-structured interviews were the qualitative method chosen, since these can

produce rich descriptions of an individual's social environment and experiences (Drever, 2003).

Participants

The sample consisted of eight members of a preparation camp delivery team for the London 2012 Olympic Games, and two athletes who had participated in Olympic preparation camps. The delivery team participants (four male, four female) were aged between 26 and 55 years ($M = 38.00$ years, $SD = 9.43$), represented a variety of roles (e.g., directors, operations, hospitality, performance services, sport engagement, project managers, coordinators), and ranged in experience of delivering an Olympic preparation camp from no previous experiences to being on the delivery team for six previous camps. The athletes were both male, aged between 32 and 33 years, and had each attended two Olympic preparation camps. This sample size was deemed appropriate to provide an exploratory insight into the design and delivery of a single nation's Olympic preparation camp since, as the data collection progressed, the participants were beginning to recall similar vignettes. As a result, the authors concluded that theoretical and data saturation had occurred (Biddle, Markland, Gilbourne, Chatzisarantis, and Sparkes, 2001; Bowen, 2008).

In terms of overall numbers at the Olympic preparation camp, the delivery team in total comprised around ten managers (e.g., Performance Services Manager), 40 individuals in structured positions supporting these managers (e.g., Performance Services Physiotherapist), and a number of other volunteers and support staff involved in the camp delivery (e.g., security and catering staff). The nation sampled had around 500 Olympic athletes who all, at some-point, attended the preparation camp to collect their Olympic kit; however, not all athletes stayed at the camp for its duration.

Procedure

After obtaining institutional ethical approval for this study, a National Olympic

Committee (NOC) was contacted by email to inform them of the purpose of the study¹. After the NOC expressed an interest in the study, members of that nation's preparation camp delivery team and previous Olympic athletes were contacted and introduced to the nature of the study, before being invited to participate. A convenient interview date and location was arranged with those who expressed an interest in participation. All of the interviews took place prior to the preparation camp beginning, were conducted in English, and digitally recorded in their entirety.

Interview Guide

A five-section interview guide² was developed for this study. For all participants, Section 1 detailed the purpose of the study, what the data would be used for, and outlined ethical rights (e.g., confidentiality, right to withdraw). After any questions had been answered, participants were asked to sign an informed consent sheet. For the preparation camp delivery team participants, Section 2 consisted of a series of questions regarding the factors perceived to be associated with designing and delivering an effective Olympic Games preparation camp (e.g., Can you tell me about the delivery team and how it works? How do you effectively cater for each team's needs?) Section 2 for the athlete participants gauged their thoughts on what an effective Olympic preparation camp was comprised of (e.g., "What makes an effective atmosphere for athletes at an Olympic preparation camp?") In comparison to these more general questions, Section 3 comprised questions that were specific to each participant's own role at a preparation camp. To supplement this information, Section 4 provided all participants with the opportunity to discuss further points on an effective Olympic preparation camp that had not already been covered. Section 5 encouraged all participants to evaluate the interview and provide any relevant feedback. Prior to data collection, a key stakeholder in the NOC preparation camp delivery team was recruited for a pilot interview. From this interview, which assessed the feasibility of the study and the

questions being asked, it emerged that some of the questions could adopt more appropriate Olympic preparation camp terminology; therefore, certain questions were reworded accordingly.

Data Analysis

The interviews ranged in duration from 28 to 90 minutes ($M = 50.60$ minutes, $SD = 20.63$) and were transcribed verbatim. In view of the paucity of research on Olympic preparation camps, a thematic interpretational content analysis was chosen to analyze the data (Aronson, 1994; Gibbs, 2007). This inductive analysis approach enables new themes to emerge so that innovative knowledge can be generated (Esterberg, 2002). The analysis occurred in six stages (Braun and Clarke, 2006). First, the interview transcripts were read and re-read (Stage 1), before generating initial codes for the data (Stage 2). These initial codes were collated so that potential themes could emerge (Stage 3). Emergent themes were checked and reviewed with the narrative source (Stage 4), and were then defined and named (Stage 5). In Stage 6, exemplar quotes were extracted and hierarchical content trees developed to represent the themes. Although the data-analysis was primarily inductive, it is acknowledged that, naturally, the researchers began the study with some knowledge of Olympic preparation camps (Gibbs, 2007; Krane, Anderson, and Stean, 1997). In view of the absence of research on Olympic preparation camps, this personal knowledge and that which emerged from the pilot interview was used to inform the design of the interview guide. In addition to the quotes and hierarchical content trees used to present the results, an operational model was also developed. This model was designed to situate the findings within the holistic preparation camp context, illustrate interrelationships between factors, and provide a platform for rational thinking and systematic future inquiry (Jones *et al.*, 2009; Levanthal, 1997).

Rigor and Trustworthiness

Various criteria were adopted in the present study to ensure rigor and trustworthiness

(Sparkes and Smith, 2009). These were: authenticity, credibility, dependability, sincerity, transferability, and rich-rigor. The first three criteria were addressed by conducting member checks with a sample of participants who, on provision of the themes, checked their interviews had been interpreted in an accurate way (Meyer and Wenger, 1998; Sparkes and Smith, 2009). The sincerity of the research was ensured by remaining transparent about the methods adopted, being self-reflexive on potential biases, and using a critical friend to examine each stage of the analysis (Sparkes and Partington, 2003). The transferability and rich-rigor criteria were addressed by providing a description of the participants and sampling a knowledgeable selection of individuals (Sparkes and Smith, 2009; Tracy, 2010).

Results

Factors Associated with the Design and Delivery of an Effective Olympic Preparation Camp

The interview data yielded 618 distinct raw-data quotes³ which were abstracted into 60 lower-order themes, and 18 higher-order themes. The higher-order themes formed four main factors perceived to be associated with the design and delivery of an effective Olympic preparation camp: planning, operations, environment, and the delivery team.

Planning. This factor, defined as the arrangements that need to occur prior to the preparation camp to ensure that it is effectively delivered, consisted of four higher-order themes: contingency, financial, temporal, and general (see Figure 1). Contingency planning involved making arrangements for environmental health and safety at the camp (e.g., plans for the event of a fire), and athlete and support staff health and well-being (e.g., plans for illness). For the financial theme, participants spoke about managing the budget allocated to the camp, regardless of how much was provided, and liaising with sports and sponsors regarding attendance costs and financial contributions respectively. The delivery team also liaised with the sports about what they required in terms of facilities and equipment, which

had financial implications as the following quote from one delivery team member highlights:

They [the athletes] don't want to compromise their final preparation by coming to a facility which is either not Olympic compliant or of the right standard, so we've crossed all t's and dotted all the i's in terms of providing exactly what they're looking for and there's a significant cost in doing that because as good as [name of preparation camp venue] is, it doesn't have world class facilities in terms of all the equipment that is required for London 2012.

To plan an effective Olympic preparation camp, participants also spoke about understanding both the temporal demands of the sports involved (e.g., training times, availability) and that of the large-scale process of providing all athletes with their Olympic clothing (process known as "kitting-out"). The final planning higher-order theme comprised a number of general principles. These included: starting the planning early, being proactive, and giving the sports surveys to understand their requirements. A further general principle involved planning in a comprehensive and detailed manner to deliver an effective preparation camp, as the following quote from one delivery team member illustrates:

The objective for us [delivery team] is to get the ultimate preparation camp environment ahead of any Olympic Games, and for that it means that no stone should be left unturned . . . it means that every single detail is looked into, and we give the very best service we can.

Operations. This factor was defined as the management of logistics at the preparation camp, and consisted of eight higher-order themes (see Figure 2). These were: accommodation, catering, facilities, performance services, media, "kitting-out" process, security, and transport. To ensure effective accommodation is provided at an Olympic preparation camp, it should be organized so that it is secure, comfortable, of a high quality, offers spaces for social interaction, and has appropriately configured rooms. Catering

provisions also have to be excellent, with the delivery team ensuring that they are accessible, have controls in place for contamination risks, and are commensurate with athletes' requirements. Participants also spoke about the facilities available to sports at the preparation camp and how they needed to be specialist and of a high quality, secure, and similar to that which would appear at the Olympic Games and what athletes were used to. In addition to the provision of facilities for an effective Olympic preparation camp, participants emphasized the importance of providing various performance services for athletes and support staff (e.g., physiotherapy, sports medicine, nutrition, sport psychology). These performance services were delivered by either recruited personnel for the camp or by existing services based at the site. The quality of this service delivery was emphasized, as demonstrated in the following quote from one delivery team member:

If we're [the NOC] trying to provide world-class services here to athletes at the most critical time of their careers, just as they're about to go into a Games, we have to really make sure we've got the right people doing that If you've got an athlete who's perhaps picked up a slight injury, the doctor that's got to make the decision in terms of whether they actually compete or not has got to be someone that's really got credibility and the experience to manage that.

From both the athletes' and preparation camp delivery teams' perspectives, the logistics of the media were important to manage, since it could offer athletes an opportunity to get used to coverage prior to an Olympic Games but could also create a distraction from training. To effectively deliver the "kitting-out" process, participants spoke about managing stakeholders (e.g., media, sponsors, VIPs), providing the ultimate team experience during the operation, and ensuring that it was efficient and hospitable for all involved. The security of individual operations (e.g., the "kitting-out" process) and the overall safety of the preparation camp was a key theme in the operations factor for designing and delivering an effective

Olympic preparation camp. This theme involved protecting Olympic athletes, teams, and visitors by implementing a comprehensive security and accreditation system, whilst also avoiding a military environment. The final operations theme, transport, involved providing a variety of preparation camp modes of transport (e.g., buses, bicycles) and arranging first-class transport for the sports to the Olympic environment at the end of the camp. For both transport themes, the need for an efficient, reliable, and effective service was emphasized, as the following quote from one athlete illustrates:

I think that transport, especially for athletes who are so close to a Games, has to be reliable and effective . . . as an athlete you don't want these extra stresses . . . if the transport isn't there or on time, that can impinge on the training you want to do If you know that the transport will just be 100% efficient, that's just brilliant for an athlete because you can purely focus on the training.

Environment. Consisting of three higher-order themes, the environment factor was defined as the creation of an appropriate culture and atmosphere for the preparation camp (see Figure 3). The higher-order themes were hygiene, multi-sport interaction, and Olympic simulation. For the hygiene theme, the participants spoke about the importance of upholding a healthy environment by implementing proactive measures (e.g., hand gels, hygiene policies) and quarantining sick individuals to avoid illness spreading. A key theme perceived by participants to influence the effectiveness of an Olympic preparation camp was the amount and nature of multi-sport interaction that occurred. Specifically, it was deemed important to expose athletes and teams to other sports during the camp in preparation for the Olympic Games. Furthermore, this interaction enabled athletes to share experiences, build excitement, and become part of a greater team. The following quote from one athlete illustrates why he perceived it was important to have an opportunity to interact with other sports at the Olympic preparation camp:

I know athletes that have come in here that haven't been in this sort of environment before, they really like to see a weightlifter on the platform next to them or an endurance runner on the physio bed next door and it kind of just broadens their minds and gives them a bit of perspective There's very often people that are more experienced than you, that can give you advice and less experienced than you that you feel like you can give advice to. So it's normally quite a supportive environment . . . it's also quite nice to have a break away sometimes from just the people within your sport and have an extended team.

In addition to the multi-sport environment, participants emphasized the importance of simulating the Olympic environment in other ways, such as replicating the Olympic village, training facilities, equipment, and accreditation system. The importance of Olympic simulation at the preparation camp is echoed in the following quote from a delivery team member:

When planning the preparation camp environment, it is focused around trying to replicate a Olympic multi-sports training environment . . . so that when they [athletes] get into an Olympic village accommodation block, it's fairly similar and they're actually familiar with the support services that surround them. I think that is probably one of the biggest things in the preparation camp, so that when they step into the Olympic environment, they're not a rabbit in a head light, instead it's very much an easier transition from one [preparation camp] to the other [Olympic environment].

Delivery team. This factor, defined as the characteristics and structure of the group of individuals employed to design and implement an Olympic preparation camp, consisted of three higher-order themes: communication, team characteristics, and leadership characteristics (see Figure 4). To deliver an effective Olympic preparation

camp, participants spoke about the importance of the delivery team frequently communicating in an open manner, clarifying individual roles, and employing various forms of communication (e.g., email, telephone, newsletters). Specific to the Olympic preparation camp, emphasis was placed on effective communication to Sport Engagement Managers, whose role is illustrated in the following quote from one delivery team member:

The Sport Engagement Managers were actually introduced because the [Nation's Olympic Association] felt it would be best to have one point of contact between them and the sport, to deal with and communicate all the Olympic requirements . . . The Sport Engagement Team work quite closely with the Games Services Team to ensure everything is in place for the sport and vice versa as well so if they [Games Services Team] need information about the sport and what they're doing, the Sport Engagement Team can provide this.

The second higher-order theme in this factor involved recruiting and developing an effective delivery team. Participants suggested that this team should be built early, cohesive, and trusting in each other. In addition, the team should actively build appropriate relationships with relevant personnel and buy into a set of embedded values. The leaders on the delivery team were also suggested to be integral to the effective design and implementation of the preparation camp. Specifically, participants suggested that to deliver an effective camp, the leaders required appropriate knowledge and experience, and should be able to work under pressure, maintain organization, think proactively, gain respect, have a sense of humor, and display adaptability to changing situations. Furthermore, the participants also identified how leaders should be proficient in building and maintaining relationships, as the following quote from one delivery team member highlights:

Getting in early and forming relationships with the people that are working on

the site that you are going to operate on is massively important for effectiveness as a leader. I've known Harry [member of security team] for almost a year and a half now and it's very easy to work with him. These interactions need to be easy or else nothing's going to run smoothly when you need it to.

An Operational Model of the Design and Delivery of an Effective Olympic Preparation Camp

To situate the factors outlined above within the holistic preparation camp context, an operational model was developed in this study (see Figure 5). The model should be viewed from top to bottom, since this portrays the temporal nature of the design and delivery of an Olympic preparation camp from start to finish. The triangle in the top half of the model represents the design of the Olympic preparation camp and contains the planning factor (viz. contingency, financial, temporal, general; see Figure 1). The triangle (planning) starts in a narrow fashion, with only a few individuals involved, before the planning progresses and the size of the team, and therefore the triangle, correspondingly increases until reaching its full capacity just before the first athletes arrive at the camp. This part of the model may be grounded in the TBL framework, with the financial considerations in planning a preparation camp relating to the economic component of TBL (i.e. ensuring that the Olympic preparation camp is economically sustainable), and the individuals involved in the Olympic preparation camp relating to the social component of TBL (e.g., ensuring that the camp has the desired social impact on stakeholders) (Elkington, 1997). The delivery of the Olympic preparation camp is displayed as the rectangle on the lower half of the model (see Figure 5), and includes two factors: operations (viz. accommodation, catering, facilities, performance services, media, “kitting-out” process, security, transport; see Figure 2) and environment (viz. hygiene, multi-sport interaction, Olympic simulation; see Figure 3). The environment part of the model can also be grounded in the TBL framework, specifically relating to the environmental

practices component (Elkington, 1997). The delivery team factor (viz. communication, team characteristics, leadership characteristics; see Figure 4) is situated in the circle on the circumference of the operational model with bi-directional arrows illustrating its influence on and interaction with other factors. Incorporating the perspectives of the delivery team (internal stakeholders) and other personnel such as NGBs and sponsors (external stakeholders) into the model is in accordance with a Sustainable Balanced Scorecard Approach, which comprises a multi-stakeholder based view (Steurer, 2006). The delivery team is situated in this position on the model since, as illustrated in the following quote, members of this team can have a significant impact not only on designing and delivering an effective Olympic preparation camp that optimally supports athletes (i.e., have an influence on the other model factors), but also, ultimately, on an athlete's Olympic performances:

We [the delivery team] are that layer of management who take a team and are responsible for preparing them optimally for the Olympic Games . . . we have to do a pretty important job here because we can harm performance if we don't carry it out well.

It is also worth noting the "athlete-centered" nature of this operational model, as represented by the white line running through the model's core. This was incorporated into the model since it was evident in the interviews that an integral part of designing and delivering all parts of an Olympic preparation camp was what would be best for the athletes, as highlighted in the below quote from a delivery team member:

I think everyone, whether it's a volunteer or member of staff that's involved in any part of the preparation camp, needs to understand how important this event is for athletes, and how everything we're doing needs to be just right for them . . . The reason we're here is to give them a good experience and to help them to compete at their best.

This focus on the athletes is in accordance with the ultimate aim of an Olympic preparation camp, which is to provide those attending with the opportunity to conduct final physical and mental preparations so that, ultimately, they are in an optimal state to compete at the Olympics. This focus on the athlete is in accordance with Stakeholder Theory, which suggests that the business entity (i.e. the preparation camp) should be used as a vehicle for coordinating stakeholder (e.g., athlete) interests, rather than maximizing shareholder profits (Freeman, 1984). The final arrow at the bottom of the model suggests that if the athlete is of central concern and all factors on the model are effectively considered, then this ultimate aim can be achieved. The link between the factors and performance on the operational model can be related to a Configurational Approach, whereby the functioning of an organization can be used to explain performance (Lawrence and Lorsch, 1973). Furthermore, depicting an ultimate aim on the model can be theoretically grounded in the constitutional perspective of a Business Excellence Model, which sets the strategies and values that an organization seeks to achieve (van Marrewick and Hardjono, 2003).

Discussion

Performance success at an Olympic Games is highly valued by nations, as evidenced by the large amounts of public funding invested into elite sport each Olympic cycle. To ensure that a nation's representative sports teams and individual athletes are in an optimal physical and psychological condition to achieve success at the Olympics, NOCs often provide a multi-sport preparation camp just prior to the Games. This study investigated the factors perceived to be associated with designing and delivering an effective Olympic preparation camp. Specifically, the findings highlight the planning, operations, environment, and delivery team factors that need to be considered to ensure that the camp is effective in preparing athletes and teams. To situate the factors within the holistic preparation camp context and illustrate interactions between them, an operational model has been developed.

This model also enables the chronological ordering of events, individuals involved at each stage, and athlete-centered nature of an Olympic preparation camp to be portrayed. Together, the findings and model provide an important contribution to the literature, since previously there has been a lack of empirical research on these final, holistic, Olympic preparations. From a theoretical standpoint, while extant frameworks and theories may be applied to Olympic preparation camps, this is the first study to develop a model which inductively emerges from data collected in this context; thus, reflecting the pertinent, but also novel and unique, factors to be taken into consideration when designing and delivering an Olympic preparation camp.

A number of factors need to be considered for an effective preparation camp to be designed and delivered. First, the findings illustrate that the camp needs to be comprehensively planned, with particular reference to contingency, financial, and temporal plans, as well as more general considerations (e.g., being proactive, starting plans early). These findings are in accordance with research on major event planning in disciplines such as political sociology (Boyle and Haggerty, 2009), business (Simpkins, 2009), and marketing (Kourovskaya and Meenaghan, 2013), which have noted the importance of the aforementioned planning principles. Some of the research on major events planning in sport, however, has tended to focus on the impact and legacy of a sports event on the economy, environment, and society (see, e.g., Doherty, 2009; Gratton, Dobson, and Shibli, 2000). In view of this emphasis in the literature, the present study extends knowledge and understanding of elite sports events by highlighting the specific principles involved in their planning (see Figures 1 and 6), as opposed to the effects and impact that they can have.

The second factor to consider when designing and delivering an effective Olympic preparation camp is the operations involved. It is vital that these operations are managed, since many of those that emerged in the present study (e.g., accommodation, catering,

facilities, performance services, media, security, transport) have been identified as potential organizational stressors for sport performers (see, for a review, Arnold and Fletcher, 2012). The “kitting-out” process is the only operational element to emerge that has not been identified in previous organizational stressor research. Consequently, practitioners should remain aware of this demand within the preparation camp environment, and manage it effectively to avoid it having a potentially negative impact on an athlete’s health, well-being, and performances (DiBartolo and Shaffer, 2002; Gould *et al.*, 1999). If managed appropriately, however, organizational stressors can create positive emotions (e.g., happiness, hope) and attitudes (e.g., motivation, satisfaction) in a sports context (Fletcher, Hanton, and Wagstaff, 2012).

Turning to the third factor, the environment, the findings of the present study highlight that in addition to ensuring hygiene, it is important for opportunities to be provided for sports to interact with each other, and Olympic simulation to occur. Focusing on the latter point, simulation has been discussed in sport science research with regards to simulating human motion, physiological responses, and matches to better prepare athletes and teams for competition (Neptune, 2000; Petit and Ripoll, 2008; Sirotic and Coutts, 2008). In addition to simulating physical and competitive factors, this study illustrates that environmental factors (e.g., the Olympic village, facilities, equipment) and those of a more organizational nature (e.g., the accreditation system) should also be simulated within elite sport environments, such as an Olympic preparation camp.

The final factor to emerge in the present study was the preparation camp delivery team. Specifically, to ensure that an effective Olympic preparation camp is designed and implemented, the delivery team needs to communicate effectively, and display certain characteristics as a team (e.g., integration, trust) and as leaders (e.g., organization, adaptability). These findings are in accordance with research on organizational success

factors, which identifies that when teams are cohesive, communicate effectively, and have an excellent leader, they are perceived to be more effective and successful (see, e.g., Little, 2012; Wagstaff *et al.*, 2012b; Weinberg and McDermott, 2002). Unique to the preparation camp context, a further strategy adopted to enhance delivery team effectiveness was to employ sport engagement managers who were responsible for enhancing communication between the main stakeholders (e.g., the NOC and the various sports).

The purpose of an operational model is to display how various components and structures operate in a process to accomplish an ultimate function (Caws, 1973). In line with this purpose, the operational model developed in the present study situates the emergent factors in the holistic preparation camp context in which they occur, and illustrates how they interrelate with each other to achieve the ultimate Olympic preparation camp aim. In a similar fashion, the High Performance Environment model (Jones *et al.*, 2009) displays interactions amongst model components. Specifically, Jones *et al.* (2009) theorized that many of the model variables interact in a complex way and, hence, if one variable is changed, it is likely that this alteration will impact on another. The main interrelationships in the present operational model are between the delivery team and the other factors perceived to be associated with the design and delivery of an effective Olympic preparation camp (i.e., planning, operations, environment). A further key component of the operational model is that the athlete is central throughout. This athlete-centered focus for the preparation camp is similar to that adopted by some individuals working as consultants to prepare athletes and teams for an Olympic Games. To elaborate, those professionals whom adopt a humanistic and person-centered theoretical model of support suggest that the personal worth of the main stakeholder (e.g., the client/athlete) should be emphasized and of central concern at all times (see, for a review, Walker, 2010).

To apply the findings of this research, a number of evidence-based recommendations

for designing and delivering an effective Olympic preparation camp are provided, which are categorized according to the factors identified in this study (see Figure 6). These recommendations are primarily intended for management personnel involved in designing and delivering an Olympic preparation camp, so that an environment can be created that optimally supports athletes in preparing for an impending Olympic Games. That said, the recommendations provided in this study will also be of use to applied practitioners providing psychological support at preparation camps (see, e.g., Timson, 2006), or for coaches (Williams and Kendall, 2007) and national performance directors (Arnold *et al.*, 2012; Fletcher and Arnold, 2011) tasked with creating performance environments. To translate these recommendations into outputs that can be disseminated, a manual, educational seminar series, digital video resources, and podcast could all be developed (see, e.g., Danish, Petipas, and Hale, 1992; Ives, Straub, and Shelley, 2002). The developers of these proposed outputs could, in addition to the recommendations provided in the present study, draw lessons from other scholars in contexts outside of sport that have provided planning, operational, environment, and team-related recommendations for events (see, e.g., Boyle and Haggerty, 2009; Bramwell, 1997; García, 2004; Medlin, 2004).

This study has provided an initial insight into the factors that are perceived to be important in designing and delivering an effective Olympic preparation camp. To further advance this area of research, future scholars should look to develop a measure of these factors. The reason for this suggestion is that a measure would enable the factors to be assessed in a more reliable and valid manner, be compared and contrasted across different performance environments (e.g., single or multi-sport, Olympic or Paralympic preparation camps), and, ultimately, enable researchers to examine the links between the factors and subsequent performance at an Olympic Games in a more accurate way. A notable limitation of the present study was that it only assessed an individual's *perceptions* of the factors

involved in designing and delivering an effective Olympic preparation camp *prior* to its delivery. To extend this design, future research should look to explore participant's effectiveness perceptions *post* an Olympic Games, and employ research designs that can control for participant attribution bias (cf. Zuckerman, 1979) and measure the *actual* effectiveness of an Olympic preparation camp. A further limitation of this study is the size and composition of the sample. Although this case study approach was deemed appropriate to provide an exploratory insight into the design and delivery of a single nation's Olympic preparation camp, to enhance the generalizability of the study, future research should look to further test the findings of the case study and the recommendations and model produced with more comprehensive samples which explore the practices of a diversity of countries and stakeholder groups. Indeed, it is likely that the model will need to be modified according to the complexities of national differences and idiosyncratic approaches to Olympic Games preparation.

It is also suggested that scholars look to advance the model based on the model development literature in business (see, e.g., Johnson, Christensen, and Kagermann, 2008; Morris, Schindehutte, and Allen, 2005). In this literature, it has been suggested that a model should include factors such as: those relating to the offering, market, internal capability, competitive strategy, economics, and personal (see, e.g., Morris *et al.*, 2005). Applying these suggestions to the operational model in the present study, questions that need answering are: how do we create value for athletes and coaches at the preparation camp (the offering)? Who else do we need to create value for (market)? What dimensions of designing and delivering a preparation camp are we competent in and which need improvement (internal capability)? How do we competitively position ourselves so that we provide a more effective offering than other nations (competitive strategy)? How do we gain sponsorship (economic)? What are the time, scope, and size ambitions for the Olympic preparation camp (personal)?

Answering these questions will enable the operational model to provide a more comprehensive insight into the design and delivery of an effective Olympic preparation camp. In addition to developing the model, future research should also look to test it further using structural equation modeling (SEM). To elaborate, scholars can use SEM to test and estimate causal relationships between variables in the model, as well as ascertaining how much variance in Olympic performance the factors identified in the model can explain (Hoyle, 2012). It would also be insightful for future research to investigate the athlete-centered nature of the model, by recruiting a comprehensive sample of athletes involved in an Olympic preparation camp and longitudinally exploring their perceptions of its effectiveness in meeting their needs and requirements.

To conclude, this study has examined the factors perceived to be associated with the design and delivery of an effective Olympic preparation camp. Perhaps the most significant conclusion to be drawn is that this task is a multifaceted phenomenon involving various factors (e.g., planning, operations, environment, delivery team), interactions between the factors, and an athlete-centered focus. For this reason, an operational model and a number of evidence-based recommendations have been provided in this study to assist those involved with such camps so that, ultimately, athletes and teams can be more effectively prepared for major sporting events such as an Olympic Games.

Footnotes

¹To preserve anonymity, the nation's identity is not revealed. To provide some context, however, the NOC had circa 500 athletes competing at the London 2012 Olympic Games and has experience in designing and delivering Olympic preparation camps. To elaborate on the latter point, the NOC sampled first introduced the idea of a preparation camp when planning for the Atlanta 1996 Olympic Games, where a local University was made available to national athletes for training for three years prior to the Games. The first multi-sport preparation camp for the nation sampled was hosted prior to the Sydney 2000 Olympics, and this was open to athletes in the year preceding the Games and in the weeks preceding the event. Since these Games, the NOC sampled have held multi-sport preparation camps for the Athens 2004, Beijing 2008, and London 2012 Olympic Games and have secured their preparation camp for the Rio 2016 Olympic Games.

²Due to space restrictions, the interview guide is not reproduced in full here. For a copy of the guide, please contact the corresponding author.

³Due to space restrictions, only a selection of the distinct raw data quotes are presented in this paper. For a complete copy of this data, please contact the corresponding author.

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Figure 1. Factors Associated with the Design and Delivery of an Effective Olympic Preparation Camp: Planning

Frequency	Lower-order Theme	Frequency	Higher-order Theme
10	Environmental health and safety at camp	16	Contingency
6	Athlete and support staff health and well-being		
13	Managing budget	20	Financial
3	Liaising with sports on costs and requirements		
4	Working with sponsors who contribute		
4	Sensitivity to sport and NGB requirements	6	Temporal
2	Understanding magnitude of “kitting-out” process		
7	Starting the planning early	59	General
16	Planning proactively		
20	Surveys to understand sports’ requirements		
16	Comprehensive and detailed plans		

Figure 2. Factors Associated with the Design and Delivery of an Effective Olympic Preparation Camp:
Operations

Frequency	Lower-order Theme	Frequency	Higher-order Theme
7	Secure and away from distractions	32	Accommodation
12	High-quality and comfortable		
5	Social spaces provided for interaction		
8	Rooms configured appropriately		
4	24 hour access	35	Catering
6	Controlled contamination risks		
20	Meet nutritional requirements		
5	Flexible to schedule of athletes/sports		
21	Providing specialist and high-quality facilities	40	Facilities
3	Security of facilities		
16	Replication of Olympic facilities and those athletes used to		
10	Comprehensive, quality support services package	18	Performance Services
8	New versus existing resources (e.g., recruitment or staff on site)		
25	Provision and management of optimal coverage	29	Media
4	Opportunities for athletes to practice		
12	Managing stakeholders (e.g., sponsors, media)	47	“Kitting-out” Process
14	Providing the ultimate team experience		
21	Efficient and hospitable		
23	Safe and secure camp to protect athletes, teams, and visitors	47	Security
8	Comprehensive security (e.g., university, Olympic association, police)		
12	Accreditation system		
4	Avoidance of a military environment		
12	Variety of efficient and reliable transport modes	17	Transport
5	First-class transport from preparation camp to Olympic environment		

Figure 3. Factors Associated with the Design and Delivery of an Effective Olympic Preparation Camp:
Environment

Frequency	Lower-order Theme		Frequency	Higher-order Theme
5	Proactive health and hygiene measures	—	8	Hygiene
3	Quarantine for sick individuals			
20	Opportunity to experience multi-sport environment before Olympics	—	60	Multi-sport Interaction
14	Share experiences and build excitement			
26	Become a part of bigger team and support each other			
13	Develop an Olympic village environment	—	26	Olympic Simulation
9	Replicate training facilities and equipment			
4	Use a similar accreditation system			

Figure 4. Factors Associated with the Design and Delivery of an Effective Olympic Preparation Camp: Delivery Team

Frequency	Lower-order Theme		Frequency	Higher-order Theme
15	Frequent contact		69	Communication
10	Open sharing of information			
6	Role clarity			
16	Employing various forms of communication			
22	Using sport engagement managers effectively			
2	Build delivery team early		42	Team Characteristics
9	Cohesive			
3	Trust in each other			
13	Actively build relationships			
15	Buy into embedded values			
15	Knowledge and experience		47	Leadership Characteristics
2	Work under pressure and stress			
6	Organized and proactive			
5	Gain respect			
2	Sense of humor			
8	Adaptable to changing situations			
9	Build and manage relationships			

Figure 5. An Operational Model of the Design and Delivery of an Effective Olympic Preparation Camp

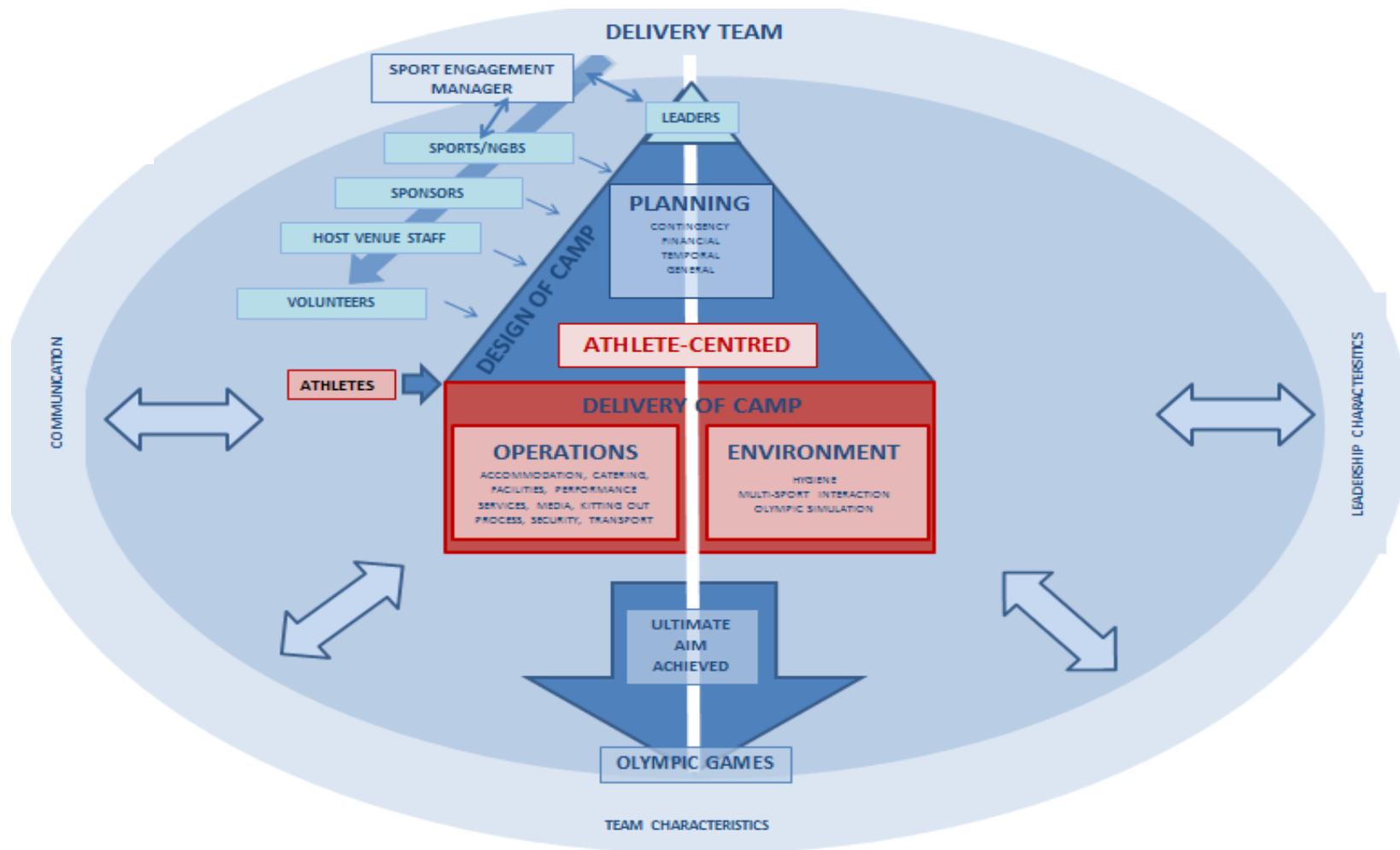


Figure 6. Evidence-Based Recommendations for Designing and Delivering an Olympic Preparation Camp

General Dimension	Evidence-Based Recommendation
Planning	<ul style="list-style-type: none"> Develop thorough contingency plans for every eventuality (e.g., fire, illness) Pay close attention to budgeting and costs Drive time-frame around sports' needs but without jeopardizing the success of the camp Get into the detail as early as possible Be proactive in planning but be prepared to have to react to situations Conceptualize the bigger picture of what you want to achieve Use surveys to communicate with the sports to understand their requirements
Operations	<ul style="list-style-type: none"> Use secure, comfortable accommodation which has accessible social areas Offer flexibility to sports for single and shared room accommodation Meet specific nutritional needs of athletes, developing a menu with nutritionists Schedule meal times around training but provide 24 hour access to snacks Put procedures in place for controlling catering contamination risks Provide secure, world class training facilities replicating those to be used at the Games and which athletes are used to Ensure access to high quality performance services and support facilities (e.g., physiotherapy, gym access) Control the media and utilize them in a positive way to give exposure to sports and practice to athletes Provide VIPs with a 'money-can't-buy' experience, but ensure it doesn't affect athletes' training Provide an efficient and hospitable "kitting-out" process including the team experience for athletes Work with police to provide a safe, secure, and accredited environment to protect athletes and staff Avoid a military environment in the implementation of security systems Provide efficient and reliable on-site transport to shuttle athletes to and from training facilities Provide first class, efficient, and reliable transport from preparation camp to Olympic environment
Environment	<ul style="list-style-type: none"> Create a hygienic environment and develop health and hygiene policies Use a quarantine to stop any illness spreading Create a multi-sport environment where athletes have the chance to interact with others in preparation for the Olympics, share experiences, build excitement, and become a part of a greater team Simulate the Olympic environment as closely as possible, making the transition to the Olympic Games easier Instill a team ethos to aid unity and perceptions of cohesion
Delivery Team	<ul style="list-style-type: none"> Ensure open and clear channels of communication within the delivery team at all times Use various forms of communication, have frequent meetings, and ensure regular face to face contact time Engage in effective communication with Sport Engagement Managers (SEMs) Develop role clarity within every member of the delivery team Hold training days for NOC staff, host venue staff, volunteers and sponsors, to develop a shared vision and team values Disseminate a regular newsletter to aid communication to all volunteers, sponsors, and host venue staff Build relationships early on to aid integration Build the leadership structure of the delivery team early and develop key leadership attributes Instill a team ethos within the organizational team to aid cohesion and unity